

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A liquid accelerator comprising ~~composed of~~ a fluoride-containing aqueous aluminum salt, wherein the fluoride-containing aqueous aluminum salt is the product of a ~~which is obtained through the~~ reaction of aluminum sulfate and hydrofluoric acid, aluminum hydroxide, and one or more kinds of lithium salts. ~~selected from the group consisting of lithium hydroxides, lithium carbonates, and lithium sulfates.~~
2. (Currently Amended) The liquid accelerator according to Claim 1, wherein total alkali content of the liquid accelerator is less than 1 % by mass of the liquid accelerator.
3. (Currently Amended) The liquid accelerator according to claim 1 ~~[[or 2]]~~, wherein ~~characterized in that~~ 15 to 35 % by mass of aluminum sulfate, 1 to 5 % by mass of hydrofluoric acid, less than 15 % by mass of aluminum hydroxide, and 3 to 25 % by mass of one or more kinds of lithium salts ~~selected from the group consisting of lithium hydroxides, lithium carbonates, and lithium sulfates~~ are used for ~~the total amount of~~ the liquid accelerator.
4. (Currently Amended) The liquid accelerator according to ~~any of claim~~[[s]] 1 ~~[[to 3]]~~, further comprising Al_2O_3 and SO_3 , wherein the ratio A/S of the number of moles of Al_2O_3 (A) to the number of moles of SO_3 (S) in the liquid accelerator is 0.35 to 1.0.
5. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 1 ~~[[to 4]]~~, further comprising SO_3 wherein the source of SO_3 is one or more kinds of sulfuric compounds ~~selected from the group consisting of~~ comprising at least one of sulfuric acids, aluminum sulfates, lithium sulfates, sodium sulfates, or ~~[[and]]~~ potassium sulfates.

6. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 1 ~~[[to 5]], further comprising wherein one or more members comprising at least one of selected from the group consisting of C₁ to C₁₀ organic monocarboxylic [[and]] or dicarboxylic acids [[and]] or the metallic salts thereof are contained.~~
7. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 1 ~~[[to 6]], further comprising at least one of wherein one or more members selected from the group consisting of alkanolamine, alkylene diamine, or [[and]] triamine are contained.~~
8. (Currently Amended) ~~The use of~~ A method comprising:
using the liquid accelerator according to any of claims 1 [[to 7]] for sprayed mortar or concrete applied to a dry or wet spraying process.
9. (Currently Amended) A method ~~process~~ of dry or wet spraying comprising:
wherein
adding the liquid accelerator according to any of claims claim 1 to 7 is added to a cement composition such as mortar or concrete in a transport pipe, a watering nozzle, or a spray nozzle, wherein the liquid accelerator is added either directly to the mixture composition by means of an accelerator feed device, or to the water content.
10. (Currently Amended) A method ~~process~~ of dry or wet spraying comprising:
adding characterized in that the liquid accelerator according to any of claim[[s]] 1 to 7 is added to base mortar or concrete which is added with a high-range AE water-reducing agent, and/or a retarder of polycarbonic acid base, or a combination thereof. ~~and which is applied to the spraying process.~~
11. (Currently Amended) A liquid accelerator comprising: ~~composed of~~ a fluoride-containing aqueous aluminum salt, wherein the fluoride-containing aqueous aluminum salt is the product of a ~~which is obtained through the reaction of~~ aluminum sulfate and hydrofluoric acid, aluminum hydroxide, and one or more

kinds of lithium salts, wherein the one or more kinds of lithium salts are at least one of selected from the group consisting of lithium hydroxides, lithium carbonates or and lithium sulfates, and

wherein the ratio A/S of the number of moles of Al_2O_3 (A) to the number of moles of SO_3 (S) in the liquid accelerator is 0.35 to 1.0.

12. (Currently Amended) The liquid accelerator according to claim 11, wherein total alkali content of the liquid accelerator is less than 1 % by mass of the liquid accelerator.
13. (Currently Amended) The liquid accelerator according to claim 11, wherein or 12, ~~characterized in that~~ 15 to 35 % by mass of aluminum sulfate, 1 to 5 % by mass of hydrofluoric acid, less than 15 % by mass of aluminum hydroxide, and 3 to 25 % by mass of one or more kinds of lithium salts, wherein the lithium salts are at least one of selected from the group consisting lithium hydroxides, lithium carbonates, or ~~[[and]]~~ lithium sulfates, are used for ~~the total amount of~~ the liquid accelerator.
14. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 11 to 13, further comprising SO_3 , wherein the source of SO_3 is one or more kinds of sulfuric compounds that are at least one of selected from the group consisting of sulfuric acids, aluminum sulfates, lithium sulfates, sodium sulfates, ~~[[and]]~~ or potassium sulfates.
15. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 11, further comprising to 14, wherein one or more members that are at least one of selected from the group consisting of C_1 to C_{10} organic monocarboxylic ~~and or~~ dicarboxylic acids or ~~[[and]]~~ the metallic salts thereof ~~are contained~~.
16. (Currently Amended) The liquid accelerator according to ~~any of claims~~ claim 11, further comprising to 15, wherein one or more members that are at least one of selected from the group consisting of alkanolamine, alkylene diamine, or ~~[[and]]~~ alkylene triamine ~~are contained~~.

17. (Currently Amended) ~~The use of~~ A method comprising:
using the liquid accelerator according to ~~any of claims~~ claim 11 ~~[[to 16]]~~ for sprayed mortar or concrete applied to a dry or wet spraying process.
18. (Currently Amended) A ~~process~~ method of dry or wet spraying comprising:
adding ~~wherein~~ the liquid accelerator according to ~~any of claims~~ claim 11 ~~to 16~~ is added to a cement composition ~~such as mortar or concrete~~ in a transport pipe, a watering nozzle, or a spray nozzle, wherein the liquid accelerator is added either directly to the composition ~~mixture~~ by means of an accelerator feed device, or to the water content.
19. (Currently Amended) A method ~~process~~ of dry or wet spraying comprising:
adding ~~characterized in that~~ the liquid accelerator according to ~~any of claim~~ claim 11 ~~to 16~~ is added to a base mortar or concrete which is added with a high-range AE water-reducing agent, ~~and/or~~ a retarder of polycarbonic acid base, or a combination thereof. ~~, and which is applied to the spraying process.~~
20. (New) The liquid accelerator of claim 1, wherein the one or more kinds of lithium salts are at least one of lithium hydroxide, lithium carbonate, or lithium sulfate.